



Best Available Copy

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,902	12/24/2003	Ki-Jae Park	1793.1099	9195
21171	7590	01/23/2008	EXAMINER	
STAAS & HALSEY LLP			HALEY, JOSEPH R	
SUITE 700			ART UNIT	
1201 NEW YORK AVENUE, N.W.			2627	
WASHINGTON, DC 20005			MAIL DATE	
			01/23/2008	
			DELIVERY MODE	
			PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/743,902

Applicant(s)

PARK ET AL.

Examiner

Joseph Haley

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 10, 12, 14 and 15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 10, 12, 14 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. (US 6410904) in view of the applicant's admitted prior art.

In regard to claim 1, Ito et al. teaches a drive chip integrated laser diode module comprising: a laser diode module main body to generate and emit laser light (fig. 3); a plurality of first leads protruding outwardly from the laser diode module main body to receive electric power (elements 68a-d); a drive chip (fig. 4. element 5); a plurality of coupling holes in the drive chip in which each of the first leads is inserted (fig. 4, see where elements 68a-c pass through drive chip 5), respectively; a plurality of inner connectors in the drive chip, electrically connected to each of the first leads (see column 8 lines 25-29), respectively; a main board (element 3); and a through hole in the main board through which the laser diode module main body passes (32); wherein the drive chip and the main board are integrally formed with respect to the laser diode module main body (fig. 4. Ito et al. teaches the drive chip and main body being connected by screws not leads) but does not teach a plurality of lands provided on the main board, directly connected to the second leads.

The applicant's admitted prior art teaches a plurality of lands provided on the main board, directly connected to the second leads (fig. 1 element 14. see also paragraph 9 lines 4-7 where the applicant's admitted prior art teaches leads being connected to the lands in the main board by soldering).

The two are analogous art because they both deal with the same field of invention of housings for laser diodes.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the drive chip apparatus of Ito et al. with the leads and lands of the prior art. The rationale is as follows: At the time of invention it would have been obvious to provide the drive chip apparatus of Ito et al. with the leads and lands of the prior art because it would make the drive chip more easily removable.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. (US 6410904) in view of the applicant's admitted prior art further considered with Miyazaki et al. (US 5018033).

In regard to claim 2, Ito et al. in view of the applicant's admitted prior art teach all of the elements of claim 2 (see claim 1 rejection above) except a bobbin connected to the base through a suspension, and movably installed in a track direction and a focus direction of the optical recording medium above the base; an objective lens mounted on the bobbin to focus light emitted from the laser diode module on the optical recording medium; a magnetic actuating unit provided across the base and the bobbin to actuate the objective lens in the track direction and the focus direction of the optical

recording medium; and a photodetector provided on the base to detect an information signal and an error signal by receiving light reflected by the optical recording medium.

Miyazaki et al. teaches a bobbin connected to the base through a suspension, and movably installed in a track direction and a focus direction of the optical recording medium above the base (elements 5, 5a and 5b); an objective lens mounted on the bobbin to focus light emitted from the laser diode module on the optical recording medium (element 5a); a magnetic actuating unit provided across the base and the bobbin to actuate the objective lens in the track direction and the focus direction of the optical recording medium (see column 3 lines 10-23); and a photodetector provided on the base to detect an information signal and an error signal by receiving light reflected by the optical recording medium (column 4 line 3).

The three are analogous art because all deal with the same field of invention of optical disc systems.

At the time of invention it would have been obvious to provide the apparatus of Ito et al. in view of applicant's admitted prior art with the moveable bobbin, objective lens and photodetector of Miyazaki et al. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Ito et al. in view of applicant's admitted prior art with the moveable bobbin, objective lens and photodetector of Miyazaki et al. because it would allow for the focusing and tracking of an optical disc system.

In regard to claim 3, the applicant's admitted prior art teaches wherein the drive chip integrated laser diode module is installed on the base by coupling the main board

and the installation portion using a screw, and heat generated from the laser diode module main body is dissipated through the screw and the base (fig. 1 element 9).

In regard to claim 4, the applicant's admitted prior art teaches wherein the laser diode module main body is installed in the installation hole so as to contact an inner wall of the installation hole provided in the base, and heat generated from the laser diode module main body is dissipated through the base (fig. 1 element 1a).

Claims 5, 10, 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. in view of the applicant's admitted prior art further considered with Chun et al. (US 6525405).

In regard to claim 5, Ito et al. and the applicant's admitted prior art teach all the elements of claim 5 except wherein the drive chip is packaged with a mold resin in a state in which a semiconductor device is mounted on a lead frame.

Chun et al. teaches wherein the drive chip is packaged with a mold resin in a state in which a semiconductor device is mounted on a lead frame (fig. 1.1 see also column 4 lines 41-47).

The three are analogous art because both deal with the same field of invention of semiconductor devices.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the drive chip apparatus of Ito et al. and the applicant's admitted prior art with the molded chip of Chun et al. The rationale is as follows: At the time of invention it would have been obvious to provide the drive chip apparatus of Ito et al. and the

applicant's admitted prior art with the molded chip of Chun et al. because using the molding method of Chun et al. makes mass production easier.

In regard to claim 10, Ito et al. teaches wherein the inner connectors are provided without protruding outwardly from the coupling holes (see fig. 4 elements 68a-c. The connectors do not protrude from the housing).

In regard to claim 12, the applicant's admitted prior art teaches wherein the drive chip further comprises a plurality of drive chip leads protruding outwardly (fig. 1 element 14).

In regard to claim 14, the applicant's admitted prior art teaches a through hole in the main body through which the laser diode module main body passes (fig. 1 element 1a).

In regard to claim 15, Ito et al. wherein the main board is directly coupled to a surface of the drive chip so that the structure is made compact (see fig. 4 elements 35 and 36 see also column 8 lines 37-41).

Response to Arguments

Applicant's arguments filed 10/31/07 have been fully considered but they are not persuasive. Applicant argues on page 6 that neither Ito et al. or the applicant's admitted prior art teaches "a plurality of lands provided on the main board, directly connected to the second leads". However, the examiner maintains this rejection because, as is taught in paragraph 9 lines 4-7 of the applicant's admitted prior art, the leads of the drive chip are connected to the main board by soldering. Soldering is directly connected.

The arguments for claims 2 and 5 are similar to those for claim 1; therefore, the response to these arguments is the same.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Haley whose telephone number is 571-272-0574. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jrh



/William Korzuch/
SPE, Art Unit 2627